A STUDY TO ASSESS THE QUALITY OF LIFE OF PATIENTS WITH CORONARY ARTERY DISEASE BEFORE AND AFTER CORONARY ARTERY BYPASS GRAFT IN A SELECTED HOSPITAL AT COIMBATORE

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ABSTRACT

A study to assess the quality of life of patients with coronary artery disease before and after Coronary Artery Bypass Graft in a selected hospital at Coimbatore.

The aim of the study was to explore the level of quality of life of patients with coronary artery disease in Physical, Psychological, and Social wellbeing before and after the coronary Artery Bypass graft surgery.

A descriptive and comparative survey approach was used. Using the non probability convenient sampling technique 75 samples were selected from the patients attending cardiology outpatient department in a selected hospital at Coimbatore. The conceptual framework used in this study was modified Roys adaptation model. The questionnaire and rating scale were used to collect the data by interview technique. The quality of life was assessed under three domains namely the Physical, Psychological and Social well being and was graded in three levels as poor, moderate and good. The data were analyzed using descriptive and inferential statistics.

The results of the study revealed that 80% of the samples had good quality of life in Physical wellbeing before and after the surgery. All the samples (100%) had good quality of life in Psychological and Social well being before the surgery. However after the surgery only 90.7% and 36% of the samples had good quality of life in Psychological and Social wellbeing respectively.

It was also found that there was no significant difference between the mean score of Physical well being ($t = 1.28$) before and after the surgery. There was a significant difference between the mean score of Psychological and Social well being ($t = 8.01, 17.5$) before and after the surgery.

There was also a significant difference found between the mean score of overall quality of life ($t = 6.76$) before and after the surgery.

The study concludes that the quality of life in Physical well being before and after the surgery was the same but it was reduced in Psychological and Social wellbeing after the surgery.

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CHAPTER-1

INTRODUCTION

BACKGROUND OF THE STUDY

Heart is one of the vital organs in the human body which is a durable organ and efficient pump. The human heart works tirelessly from the moment of formation and it begins beating until the moment it stops. On an average life time, the human heart beats more than twenty two and half billion times without taking rest. The heart beats continuously and unlike other muscles of the body, it cannot stop to rest when tired and worn from work.

The heart contracts rhythmically and with every contraction pumps blood into the blood vessels. The primary function of the cardio vascular system is to provide an adequate supply of blood to all cells of the body, the materials needed for their proper function and that carries away the waste products of their metabolism.

Healthy heart can meet the needs of the entire human body and stressful conditions. When the heart does not work efficiently that persons life may be threatened. For proper pumping of the heart, cardiac muscle needs adequate blood supply through the coronary arteries. When the coronary artery is unable to supply adequate blood to the myocardium due to the narrowing or blockage, the myocardium becomes ischemic and injured may result in infarction.

It is widely acknowledged that heart disease and stroke are the leading cause of death and disability in the developing countries. We are in the midst of a true global cardiovascular disease epidemic. Cardio vascular disease is responsible for approximately 30% of all deaths worldwide every year. Coronary artery disease is the most common type of cardio vascular disease and accounts for the majority of these deaths.

Coronary artery disease results from the development of obliterate atherosclerotic lesions within the coronary arteries that narrow or obstruct these vessels.

Two decades ago coronary artery disease was traditionally associated with advanced age, this association does not seem to hold true any longer and today age is no bar for heart problems. Many young men in their thirties found to have angina and even become victims of a heart attack.

Although all the causes of coronary artery disease are not known, clinical evidence suggests that many factors contribute to the onset of atherosclerosis. The developing countries underwent rapid industrialization, urbanization, economic development and market globalization over the last four decades. As a consequence, standards of living improved but with a detrimental shift toward inappropriate dietary patterns and a reduction in physical activities, with the advent of motorized transport and increased use of laborsaving home and office appliances. Additionally leisure time physical activities have given way to physically undemanding pastimes including watching television **(Ramachandran and et al -2006).**

In 2002, coronary heart disease caused 7.2 million deaths worldwide and accounted for the loss of 59 million DALYs, (Daily adjusted life years) each year there are about 5.8 million new coronary heart disease cases and about 40 million individuals with prevalent coronary heart disease are alive today. The incidence of coronary artery disease in developing countries are 99 in one lack population in China,199 in one lack population in India and 166 in one lack population in middle eastern countries **(Bedi-2003)**

There is a paucity of data regarding coronary artery disease and its prevalence in the developing world. However, it is projected that coronary artery disease mortality rates double from 1990 to 2020, with approximately 82% of the increase attributable to developing world (**MEDLINE-2002).**

World Health Organization has predicted that by A.D. 2020 up to three quarters of death in developing countries would result from no communicable disease and that coronary heart disease will top the list of killers **(Yeolekar-1988).**

Coronary heart disease should now be considered an important public health problem in India. There is an alarming rise in the incidence of the coronary artery

disease in young Indian (<45 years) especially south Indians. South Asians as an ethnic group have the highest morbidity due to coronary artery disease than any other ethnic group. **(Dr.S.N.Narasingan-2003)**

India is now in the middle of coronary artery disease epidemic. Over the past 30 years the coronary artery disease rate have doubled in India where as coronary artery disease rates have declined by 50% in most developed countries during the same period. Several surveys have shown the prevalence of coronary artery disease in India in urban adults aged <35 years to be >10% **(R.R Karliwal-2006)**.

In recent past persons with damaged heart frequently believed that heart disease would incapacitate them, making them cripples for life. Such patients become despondent because they felt that the joys and responsibilities of an active life would no longer be theirs.

Early stage of coronary artery disease can be treated by medications and percutaneoustransluminal interventions but when the disease, diffuse not amendable to treatment with a percutaneoustransluminal interventions, it needs surgical corrections such as coronary artery bypass graft.

The main goals of coronary artery bypass graft in managing patients with coronary artery disease are to

1. Relieve pain
2. Reduce the hearts workload
3. Supply adequate blood supply to the cardiac muscle and
4. Improve the life expectancy.

Coronary artery bypass graft surgery consists of the construction of new conduits between the aorta, or other major arteries and the myocardium distal to the obstructed coronary artery **(Lewis-2007).**

Coronary artery bypass grafting is probably the most intensively studied surgical procedure with follow up data extending over 20 years. Furthermore, coronary artery bypass grafting is remarkably safe, improvements in medical, anesthetic and

surgical management have ensured that hospital mortality has remained around 2% over the past decade despite the treatment being used in older and sick patients **(David P.Taggart-2005).**

Increased prevalence of coronary artery disease in India has led to an increase in number of coronary artery bypass grafting and percutaneous transluminal coronary angioplasty being performed every year. Coronary artery bypass graft that accounted for less than 10 % of all cardiac surgeries in 1980, today accounts for more than 60% and every year 25000 coronary artery bypass operations are being carried out in India **(Non Invasive Cardiology – 2000).**

Advances in medical care have already substantially reduced long term mortality rates in Coronary artery bypass graft patients, additional improvements can only be demonstrated with huge clinical trials partially for this reason, the medical community is increasingly turning to measures of quality of life to provide alternative end points that can aid decisions about the most appropriate treatment for different patient groups. **(psychosomatic medicine - 1994)**

The quality of life refers to "The degree to which a person enjoys the important possibilities of his / her life possibilities result from opportunities and limitation each person has in his/ her life and reflect interaction of personal and environment factors **(QOL Research unit, University of Toronto)".**

There is general agreement however that a comprehensive quality of life assessment needs to cover the following major domains: physical functioning, general perception of health and well being and disease specific symptoms **(Psychosomatic Society - 1994)**

NEED FOR THE STUDY

Illness can never be isolated, it is a life event. Patients react differently to illness. Individual behavior and emotional reaction depend on the nature of the illness and the patient's attitude towards it.

Disease can occur in all organs of our body and one of the vital organ heart can also be affected by various disease. One of the important diseases which affect the heart is coronary artery disease. An Individual with cardiac illness will be disturbed physically and mentally. Majority of the patients with coronary artery disease feel a threat to their identity and self esteem and may be unable to fill their usual roles in society. Coronary artery disease can be treated with various treatments such as medications,percutaneous transluminal interventions and coronary artery bypass graft surgery.

Nowadays all the hospitals are having cardiology department and major hospitals are performing coronary artery bypass graft. Though physical wellbeing of the coronary artery disease patients can be achieved through medical and surgical intervention. Coronary Artery Bypass Graft being a major surgical intervention, it creates undue stress, uncertainty, fear and anxiety among the patients who have been subjected to surgery. **(Walking Lo et al – 1999).** Recovering from coronary artery bypass graft means not only getting back physical strength but also mental wellbeing **(Robin Parks-2008).**

During the hospital stay the health care provider mainly focus on the patients physiological changes and after the discharge also the medical team mainly concentrate on the functional assessment of cardiac system. The psychological wellbeing is still a non focused aspect in hospital services. Physical and mental health is considered as both the sides of the coin, one without another is of no value. So the investigator desired to enlighten the importance of psychological support by nurses in reducing post operative anxiety and improvement in activities of daily living.

Also, the literature review revealed that only few studies have been done regarding the psychosocial problems and studies that are focused on health related quality of life among patients who had undergone coronary artery bypass graft. The investigator has felt that a study would help the nursing practitioner to understand and

provide the necessary information for promoting the emotional well being and improve their quality of life.

STATEMENT OF THE PROBLEM

A study to assess the quality of life of patients with coronary artery disease before and after the Coronary Artery Bypass Graft in a selected hospital at Coimbatore.

AIM OF THE STUDY

The aim of the study was to explore the level of quality of life of patients with coronary artery disease in Physical, Psychological, Social wellbeing and Overall quality of life before and after the coronary artery bypass graft surgery.

SPECIFIC OBJECTIVES OF THE STUDY

1. To assess and compare the level of quality of life of patients with coronary artery disease in different aspects of Physical, Psychological and Social well being before and after the surgery.
2. To assess and compare the level of overall quality of life in Physical, Psychological and Social wellbeing and Overall quality of life before and after the surgery.
3. To associate the selected demographic data with the level of quality of life of patients in Physical, Psychological and Social well being before and after the surgery.

HYPOTHESIS

HO_1 . There is no significant difference in the quality of life score in Physical well being (personal, household, outdoor & other activities) before and after surgery

$H0_2$. There is no significant difference in the quality of life score in Psychological well being (positive feeling about self, positive feeling about health & interest) before and after surgery

$H0_3$ There is no significant difference in the quality of life score in Social well being (Interaction with family, interaction with friends & Spiritual activities) before and after surgery.

$H0_4$ There is no significant difference in the total score of quality of life in Physical Psychological, Social wellbeing and Overall quality of life before and after surgery

OPERATIONAL DEFINITION

Coronary Artery Bypass Graft

Surgical establishment of a shunt that enables blood to travel from the aorta to a branch of coronary artery at a point of past obstruction.

Quality of life

In this study quality of life refers to the ability of the person to carryout physical activities without difficulty with regard to Physical wellbeing, the sense of positive feeling about self, health and interest with regard to Psychological wellbeing and involvement in social activities with regard to Social wellbeing.

ASSUMPTION

Patients with coronary artery disease will have limitations to carryout the activities.

- Individual differs in meeting needs of physical, psychological and social well being.
- Aim of the surgery is to improve the quality of life.
- Individual experience will vary after the surgery.
- Quality of life may be influenced by various factors such as family support, social support and information regarding the disease condition.

DELIMITATION:

The study is delimited to

- Post operative patients attending the outpatient department of selected hospital at Coimbatore.
- Coronary artery disease patients who are treated only by coronary artery bypass graft
- Patients with the postoperative period of more than six months.

SCOPE OF THE STUDY

Coronary artery bypass graft is the method of revascularization in patients with coronary artery disease. This study findings will determine the level of quality of life of patients with coronary artery bypass graft. If the level of quality of life is same before and after the surgery the future clinical interventions aimed to maintain the quality of life in physical, psychological and social wellbeing in this population. If the level quality of life poor after the surgery, it is an indication for the nurse to take action to improve the quality of life in patients with coronary artery bypass graft.

CONCEPTUAL FRAME WORK

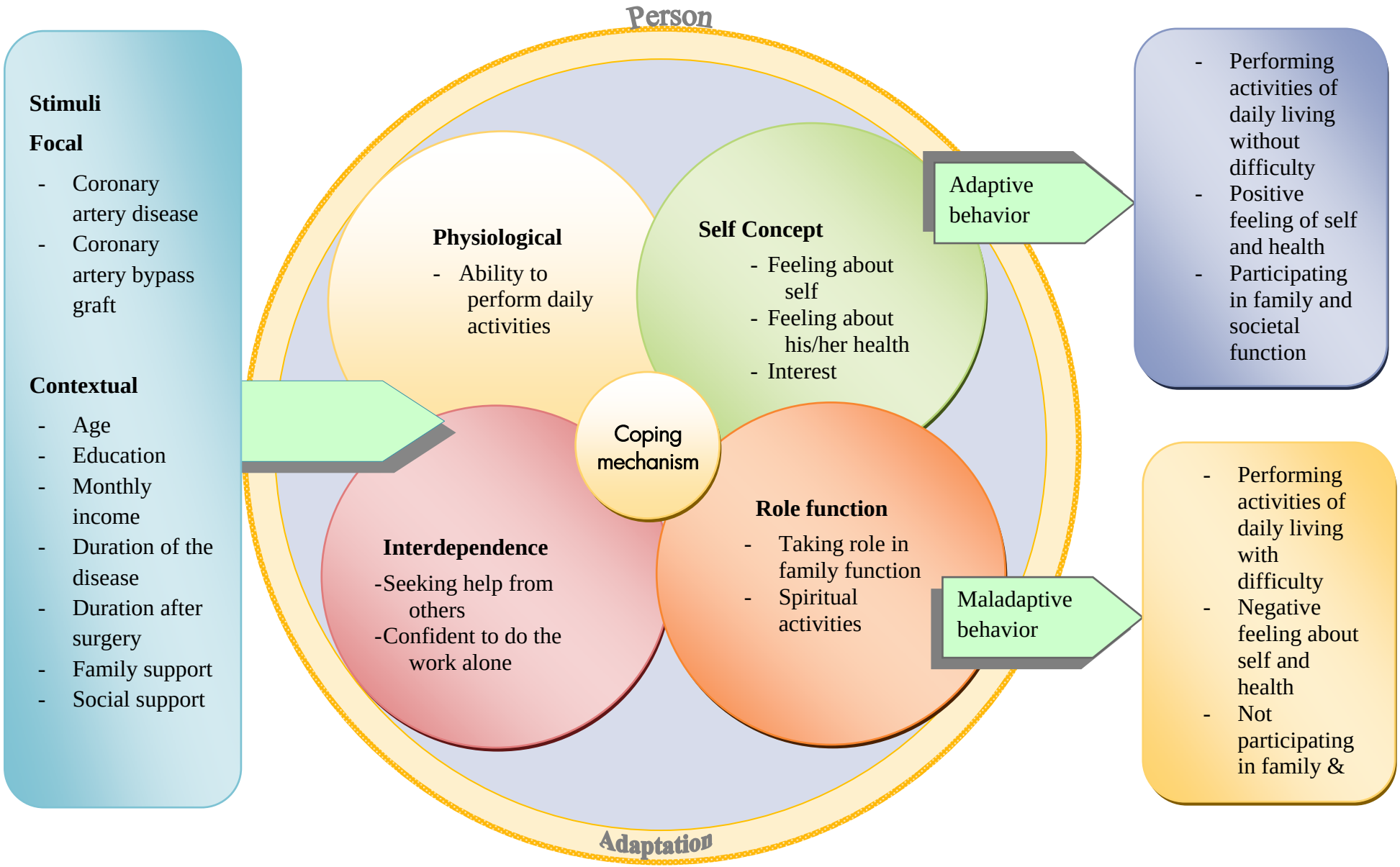
Conceptual framework refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme **(Polit and Hunger- 1997).**

Theoretical model for this study was derived from Callista Roy's Adaptation model (1991). According to Roy"s adaptation model the goal of nursing is to assess the adaptation between the person and the stimuli. The unique focus of the model is the input, it is identified as stimuli, which can come from the environment or from within a person. Stimuli are classified as focal (immediately confronting the person) , contextual (all other stimuli, that are present) or residual (non specific such as cultural belief's or attitudes about illness). Input also includes a person's adaptation level (the range of stimuli to which a person can adapt easily). Stimuli acting through the regulator and cognator of the coping mechanism to produce behavioral responses in the four

interrelated adaptive modes- physiological, self concept, role function and interdependence.

Physiological function include the body's basic needs, self concept refers to beliefs and feeling about oneself, role function involves behavior based on a person's position in society and interdependence involves a persons relationship with significant others and support system.

Present study explains the focal stimuli are the coronary artery disease and coronary artery bypass graft, contextual stimuli are the age, education, duration of disease, monthly income and duration after surgery. As a response to the focal and contextual stimuli the behavior exhibited out in the form of adaptive and maladaptive behavior. The samples who were adapted to the coronary artery bypass graft shows adaptive behavior such as performing activities of daily living without difficulty, positive feeling about self and health, taking role in family function and spiritual activities, confident to do the work alone and not depending on others. But the samples not adapted to the coronary artery bypass graft shows maladaptive behavior such as performing activities of daily living with difficulty, negative feeling about self and health, not taking role in family function and spiritual activities, not having confident to do the work alone and depending on others.


Stimuli
Focal
- Coronary artery disease
- Coronary artery bypass graft
Contextual
- Age
- Education
- Monthly income
- Duration of the disease
- Duration after surgery
- Family support
- Social support
Person
Physiological
- Ability to perform daily activities
Self Concept
- Feeling about self
- Feeling about his/her health
- Interest
Coping mechanism
Interdependence
-Seeking help from others
-Confident to do the work alone
Role function
- Taking role in family function
- Spiritual activities
Adaptation
Adaptive behavior
- Performing activities of daily living without difficulty
- Positive feeling of self and health
- Participating in family and societal function
Maladaptive behavior
- Performing activities of daily living with difficulty
- Negative feeling about self and health
- Not participating in family &

CHAPTER – II

REVIEW OF LITERATURE

Review of literature is a systematic identification, location ,scrutiny and summary of written materials that contain information on research problems. The review of literature in a research report is a summary of current knowledge about a particular problem of practice and includes what is known and not known about the problem **(Hulme and Groves -1994).**

This chapter deals with the information collected in relation to the present study through published and unpublished materials which provided the foundation to carryout this study.

In the present study the review of literature is organized and presented as follows.

1. **Literature related to quality of life before and after coronary artery bypass graft.**

Ballan A Lee G (2007) conducted a prospective longitudinal quasi experimental study to investigate recovery from coronary artery bypass graft surgery on the basis of patient perceived quality of life in particular, physical and mental health 54 patients participated in this study. The result shows coronary artery bypass graft (CABG) significantly improved physical functioning ($P<0.001$), general health participation ($P<0.001$), and energy vitality ($P<0.001$) No statistical difference was found in patients mental health pre and post operatively.

Furze G and et all (2009) conducted a study to evaluate whether rehabilitation prior to coronary artery bypass graft surgery improves physical functioning and depression. 204 patients awaiting first time for elective coronary artery bypass graft were included in this study 100 patients were randomized to cognitive-behavioral intervention(the Heartop programme with routine nurse counseling) and 104 to control group. The result suggests that there were no differences in anxiety or length of hospital stay. There were significant differences in

depression physical functioning and cardiac misconceptions in favor of the heartop programme. So nurse counseling with heartop programme reduces depression and cardiac misconceptions and improves physical functioning before bypass surgery.

Marcia Aparecida ciol (2008) university of Washington conducted a study to assess the quality of life of 124 people with coronary artery disease who had coronary artery bypass graft, by using the modified Flanagans quality of life instrument as the outcome measure and studied the association between quality of life and demographic, clinical and perceived health status using SF 36 Health survey. The mean for the modified Flanagan's quality of life was high (M=84.8, SD=13.B). In a linear regression analysis the SF36 subscales of vitality and general and mental health were statistically significant. The result suggests that future clinical interventions aimed to improve quality of life in this population could focus on the patient's psychological conditions after the surgery.

N Caine, LD Sharplus, J Wallwork (1998) Institute of Public Health, Cambridge UK conducted a prospective study to determine the long term health related quality of life of coronary artery bypass graft patients, to look at changes between one and five years after surgery. In this study 100 male patients aged <60 years at the time of surgery were included. The result suggests that chest pain was experienced by 34 of 84 patients at five years compared with 17of 89 patients at one year. The proportion of patients who were unrestricted in their activities ranged from 61 - 70% at five years compared with 82 – 88%at one year. In comparing the five year results with those at one year, lower mean scores indicating slight improvements, were seen in the pain, sleep, social isolation and emotional reactions, whereas signs of deteroiation were noted in the physical mobility and energy scores.

A prospective study was conducted by **Grace M. Lindway, Phillip Hanlon (2000)** University of Glasgow, to determine the general health status, 12 months following coronary artery bypass graft and to document any association between pre operative health status, level of social support and coronary artery risk factors, Coronary artery disease symptoms severity and post operative health status. Two hundred and fourteen patients were included in this study. The results showed that

183 patients improved across all of the eight domains of SF36 scale. A higher social network score and higher pre operative health status were associated with improved health Status and patients with lower health levels prior to coronary artery bypass graft were less likely to gain improvement in health following coronary artery bypass graft.

R. Linguist, Ph.D, G.Dupuis, Ph.D (1999) conducted a study to determine the health related quality of life outcomes one year after coronary artery bypass graft surgery. 674 patients (405 men and 269 women) were included in this study. Health related quality of life domains of physical, social and emotional functioning were assessed via self-administered questionnaires preoperatively and at 6 weeks, 6 months and 1 year after operation. The result showed that six weeks after coronary artery bypass graft, both men and women had less anxiety and symptoms of depression than before operation and 6 months after coronary artery bypass graft, both men and women improved in physical and social functioning. However, women scored lower than men in these domains and had more symptoms related to depression than men through their first year of recovery after coronary artery bypass graft(P – 0.003)

Liupou Ben – Noun M.D (1999) Ben – Gurion University of the Negev, conducted a comparative study to assess the long term psychological outcomes between the medically treated patients and coronary artery bypass grafting patients. 132 patients who underwent Coronary Artery Bypass Graft and 145 medically treated patients with coronary artery disease were included in this study. The results showed that medically treated patients were scored high score in the anxiety and depression scale and significantly severe impairment of family relationships, social activities, leisure activities than surgically treated patients.

Sue penckofer RN, Ph.d, Carol Estwing Rerrans RN, Ph.D (2006), conducted a study to determine the effect of coronary artery bypass graft surgery on the quality of life of women. The participants included 61 women who underwent coronary artery bypass graft. The major findings of the study were that women had significantly improved quality of life (P = 0.004) due to increased satisfaction with health and functioning (P<.001). Psychological wellbeing improved after surgery for most women (p<.001),with lower anxiety levels (P<.001) grater levels of wellbeing(p<.021).

Bashara Phillips Bute Ph.D., Joseph Mathew MD (2003) Duke University, Dusham, conducted a study to evaluate gender related differences in quality of life and cognitive function 1 year after coronary artery bypass surgery. Two hundred eighty patients (96 women and 184 men) underwent quality of life evaluation. The results suggests that the female patients showed significantly worse outcome than male patients at 1 year follow up.

Tully PJ and et al (2009) conducted a study to examine the impact of general stress, depression and anxiety on health related quality of life after coronary artery bypass graft surgery. 193 patients were involved. The result suggest that elevated depression symptoms before and after surgery showed an association with lower and worse health related quality of life for vitality and social role functioning and physical and general health.

A longitudinal study was conducted by **Rantanen A and et al (2009)** University of Tempered, Finland, to monitor changes in health related quality of life and to identify associated factors among patients having coronary artery bypass grafting and their significant others. 163 patients who underwent coronary artery bypass grafting were included in this study. Three sets of questionnaire data were collected 1,6 and 12 months after coronary artery bypass graft from patients and significant others. Findings showed patients and their significant others health related quality of life was at its lowest one month after the operation and improved during follow up. The improvement in the patients health related quality of life was greater than that in the significant others.

A longitudinal study was conducted by **Azzopardi and et al (2009)** to examine patient perceived health related quality of life and depressive symptoms 2 years after coronary artery bypass graft surgery compared with the results from preoperative and 1 year postoperative data. Eighty seven participants were included in this study. The results suggests that most of the participants had significant

improvements in their perceived health status 2 years after coronary artery bypass graft and no significant depressive symptoms had been noted.

A prospective cohort study was conducted by **Dunning J and et al (2008)** to assess the long term outcome of coronary artery bypass grafting both in terms of survival and quality of life. 1180 patients were included in this study. The results showed that ten year survival was 66% across all patients 85% had a quality of life within a 95% confidence interval of the score found in the general population with similar age. Poor quality of life was reported in 91 patients (14.7%) coronary artery bypass grafting was associated with excellent 10 years survival and quality of life.

Spadoti Dantas Raand et al (2008) University of Sfuo Panto, conducted a study to assess the quality of life of 124 people with coronary artery disease who had coronary artery bypass surgery. The SF 36 subscales of vitality, general and mental health were statistically significant and mental health was statistically significant (P <0.1 for all) after adjusting for other demographic and clinical variables. The result suggests that future clinical interventions aimed to improve quality life in this population could focus on the patient's psychological conditions after the surgery.

Lee G A (2007) conducted a cohorts study to describe the cohort's characteristics, their angina and breathless symptoms and report health related quality of life five years after CABG. One hundred and twenty eight patients participated in this study. The findings demonstrate that patients perceived health related quality of life five years after coronary artery bypass graft was generally good and patients remained relatively asymptomatic.

Tung HH and et al (2008) conducted a study to explore the relationship between ways of coping, anxiety level and quality of life for patients after coronary artery bypass grafting. 50 men and 50 women were included in this study. The findings suggest that better quality of life was associated with lower anxiety level, greater use of problem focused coping strategies and those who had more gender role responsibility. Women scored lower on the physical dimensions of quality of life, used more self blaming coping strategies and experienced slightly higher levels of anxiety compared to men.

Panagopoulou E and et al (2006) conducted a prospective study to determine the influence of preoperative physical and psychosocial functioning on quality of life 1 and 6 months after coronary artery bypass grafting. In this study 157 patients participated. Results showed significant improvements in the quality of life of the patients after coronary artery bypass graft. Results highlighted preoperative distress as a screening criterion to identify patients likely to benefit less from cardiac surgery.

Saarinen and et al (2003) conducted a prospective study to investigate changes in health related quality of life, overall performance status and symptomatic status during first year after coronary artery bypass surgery. 508 CABG patients were included in this study. The results showed significant improvement in all eight domains of quality of life as well as in functional capacity during first year after coronary artery bypass graft. Among patients aged 75 years or more did not reach a statistically significant level ($P = 0.097$) and they had significantly minor improvement as compared to younger patients ($P< 0.05$). Elderly patients not only have higher mortality and morbidity but also desire less benefit from coronary artery bypass graft regarding certain aspects of quality of life.

The review of literature gave an in depth, knowledge, which are related to the research problem of quality of life of patients with coronary artery disease before and after coronary artery bypass graft. The review of literature helped the investigator to select the setting, to understand the problem of quality of life and to design the present study.

CHAPTER – III

METHODOLOGY

This chapter explains the methodology adopted by the researcher to assess the quality of life before and after coronary artery bypass graft surgery and deals with description of research approach, research setting, sample and sampling technique, development and description of tool, pilot study, data collection method and statistical analysis.

RESEARCH APPROACH

The research design is the platform from which the investigator explores new knowledge in an effort to describe better and understand the phenomena, clarify possible explanation and identify the different areas of the problem under study.

This study adopted a non experimental descriptive and comparative survey approach. A descriptive survey is designed to gain more information about existing phenomena. The purpose of the study is to gain more information about quality of life in Physical, Psychological and Social wellbeing of patients with Coronary Artery Bypass Graft and compare the quality of life before and after the surgery. Hence the approach was considered most appropriate.

SETTING OF THE STUDY

The study was conducted at the cardio thoracic surgical out patient department of one of the selected hospital at Coimbatore. This hospital has 450 beds with multispecialty medical services. This hospital has Cardiology and Cardio Thoracic Surgical department and a separate coronary care unit, cardio thoracic intensive care unit and cardiothoracic operation theatre. Here all the cardiac patients are treated by medical, percutaneous and surgical intervention. Every month 25 to 30 coronary artery bypass graft surgeries are conducted. Coronary artery bypass graft patients are discharged on 7^{th} or 9^{th} post operative day.

This hospital has three cardio thoracic surgical out patient department headed by Cardio Thoracic Surgeons. Each out patient department is staffed with one auxiliary nurse .On an average 10 patients who had undergone coronary artery bypass graft surgery attends the out patient department every day. In the outpatient department patients regularly come for review , two weeks, 6 months and one year after the surgery.

The activities carried out in the outpatient department are collecting history, performing physical examination, cardiac assessment and carrying out investigations, surgical wound dressing and health education regarding medication , diet, exercise and regular follow-up.

POPULATION

The population comprised of all patients with coronary artery bypass graft attending the cardio thoracic surgical outpatient department of the selected hospital at Coimbatore at the time of the study.

SAMPLE SIZE

The sample consisted of 75 patients with coronary artery bypass graft based on the criteria for sample selection.

SAMPLING TECHNIQUE

Non probability convenient sampling technique was adopted for the selection of sample.

SAMPLING CRITERIA

The following were the criteria for selection of samples for the study.

Inclusion criteria

- Coronary artery disease patients treated by coronary artery bypass graft surgery.
- Patients who were willing to participate.

Exclusion criteria

- Coronary artery disease patients treated by percutaneous coronary intervention.
- Patients with valvular and septal correction procedure
- Patients with a post operative period of less than six months.

DESCRIPTION OF THE TOOL

The tool used for the study was a questionnaire and a rating scale with three parts. The technique used was interview.

Questionnaire

The questionnaire was used to gather demographic data such as age, education, occupation, income, duration of coronary artery disease before surgery, medication taken before and after surgery and duration after surgery. (Appendix-)

Rating scale

Part-I

This part of the rating scale was developed to know the level of difficulty in performing physical activities before and after surgery. The physical activities were arranged under four aspects of activities (personal, household, outdoor and other activities). Under each aspect there were 3-8 activities A three point scale (No difficulty , with some difficulty, and with great difficulty) was provided to record the response. Columns were provided to mark the response before and after surgery.(Appendix-)

Part-II

This part of the rating scale was to gather views regarding psychological well being before and after surgery. The views were categorized under three aspects (positive feeling about self, positive feeling about health and interest) under each aspect there were 2 to 6 views. A three point scale (Always, Sometimes, Not at all) was provided to record the response before and after surgery.(Appendix-)

Part -111

This part of the rating scale was developed to determine the involvement of the sample in social activities before and after surgery. The activities were categorized under three aspects (Interaction with family, Interaction with friends and spiritual activities).Under each aspects there were 2 activities. A three point scale (Not at all, Sometime, and always) was provided to record the response before and after surgery.(Appendix)

DEVELOPMENT OF THE TOOL

The tool was developed based on the objectives of the study, review of literature, discussion with experts and Short Form (SF) 36 Health survey standardized tool.

SF- 36 Health survey

SF (Short form) 36 Health survey standardized tool consists of 36 questions comprised of eight health scales measuring three aspects of health (Functional status, well being and overall evaluation of health) on a five point and three point scale. The SF-36 is intended to provide a short, comprehensive and easy to administer tool for use in clinical settings and to be applicable across social and demographic groups.

The validity and reliability of the SF-36 has been confirmed among patient populations in the USA and shown to detect differences in health status for patients with different types and severity of medical condition. (Appendix)

This standardized tool provided an idea to structure the tool for the present study. Also some of the items were taken from this tool for the physical, psychological and social wellbeing aspects of the tool in the present study.

SCORING AND SCORE INTERPRETATION

SCORING

The minimum and maximum score of the rating scale for the three areas were,

Areas	Score
Physical wellbeing-	1-66
Psychological wellbeing	1-30
Social wellbeing	1-18
Over all wellbeing	1-114

SCORE INTERPRETATION

1.Physical wellbeing

Score	Grade
1-22	Poor
23-44	Moderate
45-66	Good

2.Psychological wellbeing

1-10	Poor
11-20	Moderate
21-30	Good

3.Social wellbeing

1-6	Poor
7-12	Moderate
13-18	Good

4.Overall wellbeing

1-38	Poor
39-76	Moderate
77-114	Good

CONTENT VALIDITY

The tool along with the objectives and criteria were submitted to one medical expert, one surgical expert, one clinical psychologist and two nursing experts. Both the nursing experts hold a Master's degree in Medical and Surgical Nursing Specialty working as a reader in two private nursing colleges. The Medical expert (MD, MRCP, FRCS in Cardiology) is a consultant in one of the private hospital in Coimbatore with more than 7 years of experience. The Surgical expert (MS, MCH FRCS Cardio Thoracic) is a consultant cardiothoracic surgeon in one of the private hospital in Coimbatore with more than 5 years of experience. The Clinical Psychologist (PhD) is an assistant professor in one of the private college with more than 5 years of work experience. According to the suggestions of the experts a few questions were modified in demographic data and the tool was prepared for pilot study.

RELIABILITY

The reliability of the three sub scales of the rating scale was established by split half method. Correlation co-efficient was calculated by Gutman split half method.

The obtained 'r' value was 0.9 for physical wellbeing, 0.7 for psychological wellbeing, 0.7 for social wellbeing and 0.8 for overall wellbeing, which confirmed that there was high positive correlation and internal consistency of the tool.

PILOT STUDY

A pilot study was conducted in a selected hospital in Coimbatore. A formal permission was obtained from the Administrative Officer and Chief Cardio Thoracic Surgeon for pilot study and main study. The purpose of the tool was explained to the Chief Surgeon and one a room was arranged for conducting interview.

Ten patients came to the outpatient department for review, who met the inclusion criteria were selected for data collection. After a self introduction the samples were made to sit comfortably in the interview room. The investigator explained the purpose of the study to the samples individually and after obtaining their rapport and willingness, the data was collected using the questionnaire and rating scale. The duration of pilot study was one week.

The result of the pilot study showed that the tool and the technique adopted were adequate.

DATA COLLECTION PROCEDURE

As permission was already obtained from the Chief Cardiac Surgeon and the Administrative Officer of the selected hospital. There was no need to seek permission again for the main study. Before commencement of the data collection investigator met the receptionists and nurses who were working in cardiac out patient department in order to develop good rapport and obtain cooperation to collect the data.

The patients came to the outpatient department for review who met the inclusion criteria and were selected by convenient sampling technique for data collection. After a self introduction the samples were made to sit comfortably in the interview room. The investigator explained the purpose of the study to the samples individually and after obtaining their rapport and willingness, the data regarding the demographic characteristics, performance of physical activities, views on psychological and social wellbeing before and after the surgery were collected by using the questionnaire and rating scale. Privacy was maintained and confidentiality was assured. Investigator thanked the samples after each interview.

The researcher met 5 -10 samples per day and the average time taken for the interview was one hour. Most of the samples were interested to participate in the study, they co-operated and were free to express their views. The study was done from 29.06.09 to 29.07.09. During this period the investigator stayed in the cardiology outpatient department from 8am to 3pm.

PLAN FOR DATA ANALYSIS

The data obtained would be analyzed in terms of the objective of the study using descriptive and inferential statistics.

Descriptive Statistics

Frequency and percentage distribution were used to analyze demographic variables, to assess the level of difficulty in performing physical activities to assess the psychological well being and social well being before and after the surgery.

Mean and standard deviation were used to determine the difference in level of physical activities, psychological well being and social well being before and after the surgery.

Inferential Statistics

Paired ‘t’ test was used to determine the significance of the difference in level of physical. Psychological and social well being before and after the surgery.

χ^2 test was used to assess the association of demographic variables with level of physical activity, psychological and social well being before and after the surgery.

CHAPTER – IV

ANALYSIS AND INTERPRETATION OF DATA

Data analysis is the "Processing of research findings to summarize a situation, discover relationships between elements of the information or to draw conclusions from them". Interpretation is the process of making sense of the results of a study and examining their implications**(James.A.Fain-2003)**

This chapter deals with analysis and interpretation of the data collected from 75 patients who underwent coronary artery bypass graft surgery. The data have been analyzed and presented comparatively before and after surgery under the following headings.

1. Demographic characteristics of the sample

Demographic characteristics have been analyzed according to personal characteristics and surgery and medication.

2. Quality of life of coronary artery diseases patients before and after surgery.

The quality of life of patients in different aspects of life (Physical, Psychological and Social well being) and overall quality of life have been analyzed in two levels (moderate and good) before and after surgery in frequency and percentage.

Comparison of the various aspects of physical, psychological and social well being and overall quality of life have been done by mean score and its significance by statistical test. (Frequency and percentage of individual items under the three areas are presented on page number)

3. Association of study variables and demographic variables

Association between physical, social and psychological well being and demographic variables before and after surgery have been presented.

1. DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

TABLE - I

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES ACCORDING TO PERSONAL CHARACTERISTICS

N = 75

S.No	Characteristics	Frequency	Percentage
1	Age in years		
	a) 40- 50 years	05	06.7
	b) 51- 60 years	33	44.0
	c) > 60 yrs	37	49.3
2	Sex		
	a) Male	59	78.7
	b) Female	16	21.3
3	Education		
	a. No Schooling	05	06.7
	b. Primary	26	34.7
	c. Secondary	25	33.3
	d. Higher	19	25.3
4	Occupation		
	a) Laborers	11	14.7
	b) Office worker	04	05.3
	c) Business	13	17.3
	d) Professionals	26	34.7
	e) Un employed	21	28.0
5	Monthly income		
	a) Rs. < 1000	01	01.3
	b) Rs. 1000 - 5000	31	41.3
	c) Rs. 5000- 10000	22	29.3
	d) Rs. > 10000	21	28.0

Table – I presents the frequency and percentage distribution of samples according to personal characteristics.

Age: All the seventy five samples were above 40 years of age. From the total 37 samples (49.3 %) were in the age group of more than 60 years and 33 (44%) were in the age group between 51 – 60 years and only 5 samples (67%) were in the age group between40 – 50 years.

Sex: Majority of the samples (78.67%) were male and 21.33% were female.

Education: Education of the samples ranged from no schooling to higher education. 34.7% of the samples had primary education, 33.3% of the samples had secondary education, 25.3% had higher education and only 6.7% of the samples had no schooling.

Occupation 26 samples (34.7%) were professionals,13 samples(17.3%) were doing business,11 samples(14.7%) were laborers and, only 4(5.3%) were office workers 21 samples (28%) were unemployed.

Income: Income of the samples ranged from below Rs.1000 to above Rs.10,000. 41.3% of the sample had a monthly income between Rs.1000 to Rs.5000, 22 samples(29.3%) had an income between Rs.5000 to Rs.10000, 28% had an income above Rs.10000 and only 1.3% had an income less than Rs.1000.

TABLE –II

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES ACCORDING TO SURGERY AND MEDICATION

N= 75

S.No	Surgery & Medication	Frequency	Percentage
1	CAD before surgery (in years) *		
	a) ≤ 2	62	82.67
	b) 2- 4	04	05.33
	c) 4 – 6	01	01.33
	d) Above 6	08	10.67
2	Duration after Surgery		
	a) < 1 year	20	26.67
	b) > 1 year	55	73.33
3	On Medication before surgery		
	a) Yes	24	32.00
	c) No	51	68.00
4	Taking of medication		
	a) Regularly	22	91.67
	b) Irregularly	02	08.33
5	Medication after surgery		
	a) Yes	75	100
	b) No	0	0

CAD – Coronary artery disease

Table II presents the frequency and percentage distribution of samples according to surgery and medication

Coronary Artery Disease: All the 75 samples were having coronary artery disease before surgery. The duration varied from less than 2 years to more than 6 years. Majority of the samples 62 (82.6%) had a duration of CAD for less than 2 years and 8 samples (10.6%) had CAD for more than 6 years and the remaining 5 samples (5.33%) had a duration of 2 – 4 years and one sample had a duration of CAD for 1 year.

Duration of surgery: For majority of the samples (73.3%) the duration after surgery was more than one year and for 26.7% of the samples the duration after surgery was less than one year.

Medication before surgery: 51 samples (68%)were not taking any medication for CAD before surgery and 24 samples (32%) were taking medication before surgery.

Medication regularity: Out of the 24 samples who took medication 22 samples (91.67%) were taking medication regularly for CAD before surgery and only 2 samples (8.33%) were taking medication irregularly.

Medication after surgery: All the samples 100% were taking medication after surgery.

1. QUALITY OF LIFE OF CORONARY ARTERY DISEASE PATIENTS BEFORE AND AFTER SURGERY.

TABLE – III

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLE IN DIFFERENT ASPECTS OF PHYSICAL WELL BEING, IN TWO LEVELS OF QUALITY OF LIFE BEFORE AND AFTER SURGERY

N = 75

S.No	Aspects of Physical Well being	Level of Quality of life							
		Moderate		Good		Moderate		Good	
		Before Surgery				After Surgery			
		F	%	F	%	F	%	F	%
1	Personal Activities	-	-	75	100	-	-	75	100
2	Household Activities	64	85.3	11	14.7	60	80	15	20.0
3	Outdoor Activities	1	1.3	74	98.7	8	10.7	67	89.3
4	Other Activities	29	38.7	46	61.3	14	18.7	61	81.3

Table III presents frequency and percentage distribution of sample with regard to different aspects of physical well being, in two levels of quality of life before and after surgery.

All the samples (100%) were able to carryout personal activities such as taking bath, dressing, combing the hair, eating, shaving and moving in and out of bed or chair very well before and after surgery.

64 samples (85.3%) were able to carry out the household activities such as cooking, washing the cloth, sweeping, grinding, ironing, gardening, minor repairing work at home moderately well and 11(14.7%) were able to perform these activities very well before surgery. However after the surgery the percentage of samples who performed the household activities very well increased by 5.3%.

74 samples (98.7%) were able to perform outdoor activities such as going to bank, family shopping and going to places of worship before surgery. However after the surgery those who were able to perform the outdoor activities very well reduced by 9.4%.

Other activities such as walking more than a mile, traveling by bus, climbing the flight of stairs, running and lifting heavy objects were moderately performed by 38.7% and very well by 61.3% before surgery but after surgery the number of sample who could do, these activities very well increased from 46 to 61, an increase of 20%.

From this table it could be concluded that all samples were very good at performing the personal activities before and after surgery. Ability to perform the household and other activities slightly improved after surgery. However no further improvement was seen in outdoor activities after surgery.

As far as the quality of physical well being is concerned the sample shows a moderate to good quality of life after surgery.

TABLE – IV

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLE IN DIFFERENT ASPECTS OF PSYCOLOGICAL WELL BEING IN TWO LEVELS OF QUALITY OF LIFE BEFORE AND AFTER SURGERY.

N = 75

S.No	Aspects of Psychological Well being	Level of Quality of life							
		Moderate		Good		Moderate		Good	
		Before Surgery				After Surgery			
		F	%	F	%	F	%	F	%
1	Positive feeling about self	01	1.3	74	98.7	08	10.7	67	89.3
2	Positive feeling about health	02	2.7	73	97.3	25	33.3	50	66.7
3	Interest	16	21.3	59	78.7	24	32.0	51	68.0

Table IV presents frequency and percentage distribution of sample with regard to different aspects of psychological well being in two levels of quality of life before and after surgery.

Majority of the samples 74(98.7%) had good positive feeling about self such as feeling of independency, no feeling of loneliness and helplessness, no feeling of nervousness, anxiety and guilt and had confidence to do work alone. 73 samples (97.3%) had good positive feeling about health such as not worrying about health, had good sleep and took responsibility in family before surgery.

However after surgery there was a reduction in the number of samples (9.4%) in positive feeling about self and 31.4% in positive feeling about health.

Before surgery 59 samples (78.7%) showed good interest in reading newspaper and watching TV. However after surgery this number reduced to 51, a reduction of 10.7%.

This table concludes that majority of the samples (78.7 – 98.7%) expressed good psychological well being before surgery. However after surgery the percentage of sample that expressed good psychological well being ranged from 66.7% - 89.3%, a reduction of 10.7% to 33.3%.

On the whole the feeling of good psychological well being is seen more before surgery than after surgery.

TABLE – V

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLE IN DIFFERENT ASPECTS OF SOCIAL WELL BEING IN TWO LEVELS OF QUALITY OF LIFE BEFORE AND AFTER SURGERY.

N = 75

S.No	Aspects of Social Well being	Level of Quality of life							
		Moderate		Good		Moderate		Good	
		Before Surgery				After Surgery			
		F	%	F	%	F	%	F	%
1	Interaction with family	4	5.3	71	94.7	72	96.0	3	04.0
2	Interaction with friends	12	16.0	63	84.0	52	69.3	23	30.7
3	Spiritual Activities	4	5.3	71	94.7	49	65.3	26	34.7

Table V presents frequency and percentage distribution of sample in different aspects of social well being in two levels of quality of life before and after surgery.

Majority of the samples 71 (94.7%) showed good interaction with family such as attending family function and visiting relatives before surgery. However after surgery majority of the samples 72(96%) had only moderate interaction with family.

Majority of the samples 63 (84%) had good interaction with friends such as talking with friends and taking part in group gathering before surgery. But after surgery the number reduced to 23 a reduction of 54% in interaction with friends.

71 samples (94.7%) had good involvement in spiritual activities before surgery. However after surgery the number of samples involvement in spiritual activities reduced to 26, a reduction of 60%.

This table concludes that majority of the samples (84-94.7%) had good social well being before surgery. However after surgery the samples showed moderate quality of life in social wellbeing.

TABLE - VI

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN THE THREE AREAS OF OVERALL WELL BEING BEFORE AND AFTER SURGERY IN TWO LEVELS QUALITY OF LIFE

N = 75

S.No	Areas	Level of Quality of life							
		Moderate		Good		moderate		Good	
		Before Surgery				After Surgery			
		F	%	F	%	F	%	F	%
1	Physical wellbeing	15	20	60	80	15	20.0	60	80.0
2	Psychological well being	0	0	75	100	7	09.3	68	90.7
3	Social well being	0	0	75	100	48	64.0	27	36.0

Table – VI presents the frequency and percentage distribution of samples in three areas of over all well being before and after surgery in two levels quality of life.

For majority of the samples 60 (80%) the quality of physical well being was good and for 15 (20%) the quality of physical well being was moderate before and after surgery.

All the samples (100%) had good quality of psychological well being before surgery, but after surgery the number of sample reduced to 68, a reduction of 7 samples (9.33%) to moderate quality of psychological well being.

All the samples (100%) had good quality of social well being before surgery but after surgery the number of sample reduced to 27, a reduction of 48 (64%) to moderate quality of social well being.

This table concludes that the overall quality of physical wellbeing was moderate to good before and after surgery. The quality of the psychological and social

wellbeing was good before surgery for all patients. However after surgery there was a slight reduction in the number of patients who had quality of psychological well being and a great reduction in the quality of social well being.

Figure 2,3and 4 highlights the percentage of level of quality of life in physical, psychological and social well being.

TABLE – VII

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN TWO LEVELS OF OVERALL QUALITY OF LIFE BEFORE AND AFTER SURGERY

N = 75

S.No	Area	Level of Quality of life							
		Moderate		Good		Moderate		Good	
		Before Surgery				After Surgery			
1	Overall Quality of life	F	%	F	%	F	%	F	%
		1	1.3	74	98.7	8	10.7	67	89.3

Table –VII presents the frequency and percentage distribution of samples in two levels of overall quality of life before and after surgery.

Majority of the samples 74(98.7%) had good quality of life before surgery. However after surgery the number of samples in good quality of life reduced to 67, a reduction of 10.7%.

From this table it could be concluded that patients with coronary heart diseases experienced good quality of life before surgery. But after surgery while majority of patients 67(89.3%) experienced good quality of life,8 patients(10.7%) experienced only a moderate quality of life. .

Fig-5 highlights the percentage of overall quality of life before and after surgery.

TABLE – VIII

MEAN SCORE AND STANDARD DEVIATION OF VARIOUS ASPECTS OF PHYSICAL WELL BEING BEFORE AND AFTER SURGEY AND ITS SIGNIFICANCE.

S.No	Aspects of physical well being	Before Surgery				After Surgery			MD	SD	Paired 't' value at P<0.01, df = 74
		Max Score	Mean score	SD	Mean Score %	Mean score	SD	Mean Score %			
1	Personal Activities	18	17.33	1.06	96.15	17.29	1.24	96.00	0.04	1.44	0.239 NS
2	Household Activities	24	10.26	4.27	42.78	10.25	0.34	46.72	0.01	2.12	0.054 NS
3	Outdoor Activities	09	08.90	0.53	98.96	08.54	1.30	94.00	0.36	0.98	3.17*
4	Other Activities	15	10.93	3.87	72.00	12.10	1.30	80.00	1.17	2.62	3.87*

NS – Not Significant df = degree of freedom Table Value – 2.660

* - Significant

Table – VIII presents the mean score and standard deviation of different aspects of physical well being before and after surgery and its significance.

Personal and outdoor activities scored very high mean score of 96.15 and 98.96% respectively before surgery.

Other activities scored a mean score of 72% household activities comparatively scored a low mean score of 42.78% before surgery.

After surgery the mean score of all the physical activities ranged from 46.72% to 96%,the highest score in personal activities and the lowest score in household activities.

Statistically there was no significant difference between the mean score of personal and household activities (t-0.239 and 0.054,df=74,p<0.0) before and after surgery and there was significant difference between the mean score of outdoor and other activities (t-3.17and3.8,df=74,p<0.01) before and after surgery.

So the hypothesis Ho1(Pg-) "There is no significant difference in the quality of life score in physical well being (personal ,household ,outdoor and other activities) before and after surgery" was accepted with regard to personal and household activities and rejected with regard to outdoor and other activities.

Outdoor activities were performed better before surgery than after surgery. Other activities were performed better after surgery than before surgery.

Fig-6 highlights the mean score percentage of various aspects of physical well being.

TABLE – IX

MEAN SCORE AND STANDARD DEVIATION OF VARIOUS ASPECTS OF PYSCHOLOGICAL WELL BEING BEFORE AND AFTER SURGERY AND ITS SIGNIFICANCE.

S.No	Aspects	Before Surgery				After Surgery			MD	SD	Paired 't' value at P<0.01, df = 74
		Max Score	Mean score	SD	Mean Score %	Mean score	SD	Mean Score %			
1	Positive feeling about self	15	14.7	1.4	98	13.2	1	88.0	1.5	1.71	7.56*
2	Positive feeling about health	09	08.6	0.5	95	07.1	0.87	79.0	1.5	1.62	7.97*
3	Interest	06	04.7	1.1	79	04.6	0.65	77.3	0.1	0.66	1.74 NS

NS – Not Significant df = degree of freedom Table Value – 2.660

* - Significant

Table – IX mean score and standard deviation of various aspects of psychological well being before and after surgery and its significance.

Positive feeling about self and about health scored a very high mean score 98 and 95% respectively and comparatively interest scored a low score of 79% before surgery.

After surgery all the three psychological aspects scored lower(77.3% to 88%) than the mean score obtained before surgery.

Statistically there was significant difference between the mean score of positive feeling about self and positive feeling about health(t-7.5 and 7.97,df=74,$p<0.01$) before and after surgery and there was no significant difference in interest(t-1.74,df=74,$p<0.01$) before and after surgery.

Hypothesis Ho_2 (Pg-) "There is no significant difference in the quality of life score in psychological well being (positive feeling about self, positive feeling about health and interest) before and after surgery". was rejected with regard to positive feeling about self and health and accepted with regard to interest.

Positive feeling about self and about health was better before surgery than after surgery.

Fig-7 highlights the mean score percentage of various aspects of psychological well being before and after surgery.

TABLE – X

MEAN SCORE AND STANDARD DEVIATION OF DIFFERENT ASPECTS OF SOCIAL WELL BEING BEFORE AND AFTER SURGERY AND ITS SIGNIFICANCE.

S.No	Aspects of social well being	Before Surgery				After Surgery			MD	SD	Paired 't' value at P<0.01, df = 74
		Max Score	Mean score	SD	Mean Score %	Mean score	SD	Mean Score %			
1	Interaction with family members	6	5.12	0.46	85.3	3.8	0.81	64.6	1.24	0.85	12.61*
2	Interaction with friends	6	5.25	0.80	87.5	3.16	1.12	52.6	2.09	1.1	15.73*
3	Spiritual Activities	6	5.45	0.62	90.0	4.36	0.74	72.6	1.09	0.84	11.26*

NS – Not Significant df = degree of freedom Table Value – 2.660

* - Significant

Table – X presents the mean score and standard deviation of different aspects of social well being before and after surgery and its significance.

All the three aspects of social wellbeing interaction with family, interaction with friends and involving in spiritual activities scored high mean score of 85.3, 87.5 and 90% respectively before surgery.

After surgery all the three social aspects scored lower than the mean score of before surgery (52.6 to 72.6%)

Statistically there was a significant difference between the mean score of all the three aspects of social well being(t-12.61,15.73 and 11.26,df=74,$p<0.01$) before and after surgery.

Hypothesis Ho_3(Pg-) "There is no significant difference in the quality of life score in social well being (Interaction with family, Interaction with friends and spiritual activities) before and after surgery". was rejected with regard to al three social aspects.

Interaction with family and friends and involvement in spiritual activities were better before surgery than after surgery.

Fig-8 highlights the mean score percentage of various aspects of social well being before and after surgery.

TABLE – XI

MEAN SCORE AND STANDARD DEVIATION OF OVERALL QUALITY OF LIFE IN THREE AREAS OF WELL BEING AND OVERALL QUALITY OF LIFE BEFORE AND AFTER SURGERY AND ITS SIGNIFICANCE.

Areas	Before Surgery				After surgery			MD	SD	Paired "t" value at p < 0.001, df = 4
	Max. Score	Mean score	SD	Mean Score%	Mean score	SD	Mean Score %			
1. Physical wellbeing	66	47.4	4.4	71.6	48.2	4.2	73.0	0.8	5.4	1.28 NS
2. Psychological well being	30	28.1	1.5	93.0	25.1	2.2	83.3	3.0	3.2	8.01*
3. Social wellbeing	18	15.7	2.1	87.7	11.7	1.9	65.5	4.0	1.9	17.5*
4. Overall quality of life	114	91.1	4.8	79.9	84.6	8.1	73.2	6.5	8.2	6.76*

NS – Not Significant df – degree of freedom table value – 2.006
* - Significant

Table XI - Presents mean score and standard deviation of overall quality of life in three areas of well being and overall quality of life before and after surgery and its significance.

Overall physical well being scored mean score percentage of 71.6 % before surgery..However after surgery there was a slight improvement in mean score of physical well being(73%).

Overall psychological, social and overall quality of life mean score ranged from 79.9% to 93%.But after surgery these three areas scored lower than the before surgery (65.5 to 83.3%),highest score in psychological well being and lowest score in social well being.

Statistically there was a significant difference in psychological and social well being ($t=8.01$ and $17.5, df=74, p<0.001$) before and after surgery and there was no significant difference in physical well being($t=1.28, df=74, p<0.001$) before and after surgery.

Statistically there was a significant difference in overall quality of life ($t=6.76, df=74, p<0.001$)before and after surgery. So the hypothesis $H0_4$ "There is no significant difference in the overall quality of life before and after surgery". was rejected.

After surgery physical well being was better than before surgery. But before surgery psychological and social well being and over all quality of life was better than after surgery.

Fig-9 highlights the mean score percentage of three areas of well being and over all quality of life before and after surgery.

3. ASSOCIATION OF STUDY VARIABLES AND DEMOGRAPHIC VARIABLES.

TABLE - XII

ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND QUALITY OF LIFE IN PHYSICAL WELL BEING BEFORE SURGERY

N=75

S.No	Personal characteristics	Level of quality of life				$\chi 2$ value $p < 0.05$	$\chi 2$ table value $p < 0.05$
		Moderate		Good			
		F	%	F	%		
1	Age						
	a) < 60 years	7	09.3	31	41.3	0.01 NS	df=1
	b) > 60 years	8	10.7	29	38.7		3.84
2	Occupation						
	a) Professionals	5	06.7	22	29.3		
	b) Others	5	06.7	21	28.0	1.97 NS	df=2
	c) Unemployed	5	06.7	17	22.6		5.99
3	Monthly income						
	a) Rs. 1000 – 5000	7	09.3	23	30.7		
	b) Rs. 5000- 10000	4	05.3	16	21.4	0.66 NS	df=2
	c) > 10000	4	05.3	21	28.0		5.99
4	Duration after surgery						
	a) < 1 year	7	09.3	15	20.0	1.48 NS	df=1
	b) > 1 year	10	13.4	43	57.3		3.84

NS – Not Significant

Table – XII presents the association between demographic variables and physical well being before surgery.

The table shows that there is no association between age, occupation, income, duration after surgery and physical well being before surgery.

TABLE –XIII

ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND PHYSICAL WELL BEING AFTER SURGERY

N=75

S.No	Personal characteristics	Level of quality of life				χ^2 value $p < 0.05$	χ^2 table value $p < 0.05$
		Moderate		Good			
		F	%	F	%		
1	Age						
	a) < 60 years	6	08.0	32	42.7	0.085 NS	df=1 3.84
	b) > 60 years	9	12.0	28	37.3		
2	Occupation						
	a) Professionals	8	10.7	19	25.3	9.41 *	df=2 5.99
	b) Others	3	04.0	23	30.7		
	c) Unemployed	4	05.3	18	24.0		
3	Monthly income						
	a) Rs. 1000 – 5000	10	13.3	22	29.3		
	b) Rs. 5000- 10000	2	02.7	21	28.0	4.53 NS	df=2 5.99
	c) > 10000	3	04.0	17	22.7		
4	Duration after surgery						
	d) < 1 year	5	06.7	15	20.0	0.43 NS	df=1 3.84
	e) > 1year	10	13.3	45	60.0		

NS – Not significant * - Significant

Table – XIII presents the association between demographic variables and physical wellbeing after surgery.

The table shows that there is an association between occupation and physical wellbeing after surgery. Those who belonged to other categories of occupation(Labourers, Officeworkers, Business) had good quality of life than professionals and unemployed.

There is no association between age, income, duration after surgery and physical wellbeing after surgery.

TABLE –XIV

ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND PSYCHOLOGICAL WELL BEING AFTER SURGERY

N=75

S.No	Personal characteristics	Level of quality of life				$\chi 2$ value $p < 0.05$	$\chi 2$ table value $p < 0.05$
		Moderate		Good			
		F	%	F	%		
1	Age						
	a) < 60 years	4	05.3	32	42.7	1.50 NS	df=1
	b) > 60 years	7	09.3	32	42.7		3.84
2	Occupation						
	a) Professionals	2	02.7	25	33.3		df=2
	b) Others	1	01.3	26	34.7	3.59 NS	5.99
	c) Unemployed	4	05.3	17	22.7		
3	Monthly income						
	f) Rs. 1000 – 5000	6	08.0	27	36.0		df=2
	g) Rs. 5000- 10000	1	01.3	20	26.7	4.13 NS	5.99
	h) Rs. > 10000	1	01.3	20	26.7		
4	Duration after surgery						
	a) < 1 year	2	02.7	15	20.0	0.11 NS	df=1
	b) > 1 year	10	13.3	48	64.0		3.84

NS – Not Significant

Table – XIV presents the association between demographic variables and psychological well being after surgery.

The table shows that there is no association between age, occupation and income , duration after surgery and psychological well being after surgery.

TABLE –XV

ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND SOCIAL WELL BEING AFTER SURGERY

N=75

S.No	Personal characteristics	Level of quality of life				χ^2 value $p < 0.05$	χ^2 table value $p < 0.05$
		Moderate		Good			
		F	%	F	%		
1	Age						
	a) < 60 years	26	34.7	12	16.0	0.32 NS	df=1
	b) > 60 years	23	30.7	14	18.6		3.84
2	Occupation						
	a) Professionals	20	26.7	05	06.7		df=2
	b) Others	14	18.6	12	16.0	3 NS	5.99
	c) Unemployed	16	21.3	08	10.7		
3	Monthly income						
	a) Rs. 1000 – 5000	24	32.0	08	10.7		df=2
	b) Rs. 5000- 10000	11	14.7	08	10.7	2.26 NS	5.99
	c) Rs. > 10000	14	18.6	10	13.3		
4	Duration after surgery						
	a) <1 year	13	17.3	07	09.4	0.001	df=1
	b) > 1 year	36	48.0	19	25.3	NS	3.84

NS – Not Significant

Table – XV presents association between demographic variables and social well being after surgery.

The table shows that there is no association between age, occupation and income, duration after surgery and social well being after surgery

CHAPTER V

DISCUSSION

The study was focused on assessing the quality of life of patients with coronary artery disease before and after coronary artery bypass graft. This chapter presents the main findings and its discussion.

1.Quality of life in different aspects of physical wellbeing before and after surgery

Table-III and VIII explains the frequency distribution of different aspects of physical wellbeing in two levels of quality of life and its significance. All the samples 75 (100%) and 74(98.7%) had good performance in personal and outdoor activities respectively before the surgery. After the surgery the good performance of personal activities remained the same(100%) with no statistical significance($t=0.239, df=74, p<0.001$) but the good performance of outdoor activities declined to 89.3% with statistical significance ($t=3.17, df=74, p<0.001$).

Before the surgery the number of samples had good performance of household and other activities only 14% and 61.3% respectively. But after the surgery the good performance of household activities slightly increased(20%) with no statistical significance($t=0.054$, $df=74, p<0.001$) and good performance of other activities highly increased(81.3%) with statistical significance($t=3.87, df=74, p<0.001$).

The present study revealed that there was an improvement in performing household activities and other activities such as walking, climbing the stairs and etc .Because of the coronary artery bypass graft the heart gets adequate blood supply. Thus the patients are able to perform the physical activities better than before surgery.

After the surgery one could be expected to perform all the activities but this present study result shows that there was a reduction in performance of other activities such

as going to bank, family shopping and etc. By interaction with the samples the researcher was able to know that the family members are restricting the patients to perform such type of activities. So the researcher concluded that the family members need education regarding care of patient with coronary artery bypass graft.

2. Quality of life in different aspects of psychological wellbeing before and after surgery

Table-IV and IX represents the frequency distribution of different aspects of psychological well being in two levels of quality of life and its significance. In Table IV majority of the samples had good positive feeling about self (98%), positive feeling about health (95%) and interest in leisurely activities (78.7%) before surgery. But after surgery the sense of positive feeling about self (89.3%) ,positive feeling about health (66.7%) and interest in leisurely activities (68%)were declined. According to Table IX there was a significant difference in the positive feeling about self and health($t=7.56$,and $7.97, df=74, p<0.001$) respectively before and after the surgery. Whereas there was no significant difference in the interest ($t=1.74, df=74, p<0.001$) before and after the surgery.

3. **Quality of life in different aspects of social wellbeing before and after surgery**

Table-V and X explains the frequency distribution of different aspects of social well being in two levels of quality of life and its significance before and after surgery. Majority of the samples showed good interaction with family (94.7%),with friends (84%)and involvement in spiritual activities (94.7%) before surgery. But after surgery there was a great reduction in the good interaction with family (4%), with friends (30.7%) and involvement in spiritual activities (34.7%) with statistical significance($t=12.61$, 15.73, 11.26, 11.26, $df=74, p<0.001$) respectively before and after the surgery.

4. Overall quality of life in three areas (Physical, Psychological and Social wellbeing) and Overall quality of life before and after surgery.

Table-VI VII and XI presents the frequency distribution of the three areas of overall wellbeing and overall quality of life in two levels and its significance before and after surgery. Majority of the samples (80%) had good quality of life in physical well being before and after surgery with no statistical significance ($t=1.28, df=74, p<0.001$)

According toTable VI all the samples (100%) had good quality of life in psychological and social well being before the surgery.. But after surgery the number of samples in good quality of life in psychological wellbeing was reduced to 90.7% and the number of sample in good quality of life in social wellbeing was reduced to 36% with statistical significance ($t=8.01, 17.5, df=74, p<0.001$) before and after the surgery.

The present study revealed that there was reduction in quality of life in psychological and social well being after surgery. The present study findings are supported by a study done earlier by **Marcia Aparecida et al (2008)** to assess the quality of life of people who had coronary artery bypass graft. It revealed that vitality and general and mental health were statistically significant. The result suggests that future clinical interventions aimed to improve quality of life in this population could focus on the patients psychological conditions after the surgery. A prospective study done by **Panagopoulou.E and et all (2006)** to determine the influence of preoperative physical psychological functioning on quality of life life 1 and 6 months after coronary artery bypass graft. Results showed significant improvements in the quality of life but this study result was not consistent with the present study result.

According to table VII before the surgery all the samples 74(98.7%) had overall quality of life ,however after the surgery the overall good quality of life declined to (89.3%) with stastical significance ($t=6.76, df=74, p<0.001$) before and after the surgery.

A prospective longitudinal quasi experimental study conducted by **Ballan A Lee G (2007)** to investigate recovery from coronary artery bypass graft on the basis of patients perceived quality of life .The result shows coronary artery bypass graft significantly

improved physical functioning, general health, participation in social activities and energy vitality. But this study results were not consistent with the present study result.

Association of study variables with demographic variables

Table XII, XIV, XV presents the association between demographic variables and physical, psychological and social wellbeing, before surgery. When statistically computed there was no association ($X2 = 0.01 – 4.53$, $df = 1\text{-}2$, $p < 0.05$) found between study variables with demographic variables.

Table-XIII presents the association between demographic variables and physical well being after surgery. When statistically analyzed there was an association ($X2 – 9.41$, $df = 2$, $p< 0.05$) found between occupation and physical well being after surgery. Those who belong to the occupation of laborers, office workers, and business had good quality of life than professionals and unemployed. There was no association ($X2 – 0.085 – 4.53$, $df = 1\text{-}2$, $P< 0.05$) found between age, monthly income, duration after surgery and physical wellbeing after surgery.

The researcher concluded that the medical care especially the nursing care should not focus only reliving the symptoms of the illness, the patients should receive the holistic nursing care to improve the overall quality of life of the coronary artery bypass graft patients.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

INTRODUCTION

This chapter deals with the summary of the study, findings, conclusion, implication and recommendations.

Summary of the study

The study was done to assess the quality of life of patients with coronary artery disease before and after coronary artery bypass graft. The study was conducted in outpatient department of a selected hospital at Coimbatore. A descriptive and comparative survey approach was used. The samples were selected by convenient sampling technique. The sample size was seventy five. Conceptual framework based on modified Roys adaptation model was used. The structured questionnaire and rating scale with validity and reliability was used to collect the data and interview technique was used. Data analysis and interpretation was done using descriptive and inferential statistics.

SUMMARY OF FINDINGS

1. Demographic data

All the seventy five samples were above 40 years of age. Half of the samples (37) were in the age group of more than 60 years. Majority of the samples 78.7% were males and rest of them were females. Regarding the educational status 34.7% had primary education and 33.3% had secondary education and 34.7% of the samples were professionals. Most of the samples (41.3%) were from the income group of Rs 1000 – 5000. Majority of the samples (82.7%) had coronary artery disease less than 2 years before surgery. For majority of the samples (73.3%) the duration after surgery was more than one year. 68% of the samples were not taking medication for coronary artery disease before surgery. All the samples (100%) were taking medication after surgery.

2. Level of Quality of life in physical wellbeing before and after surgery.

Quality of life in physical wellbeing was assessed in four aspects in two levels (moderate and good) namely,

1. Personal activities

2. Household activities

3 .Outdoor activities

4. Other activities

All the samples(100%) were able to perform personal activities very well before and after surgery. Before surgery only 14.7% and 61.3% of the samples were able to perform house hold and other activities very well respectively, but after the surgery 20% and 81.3% were able to perform household and other activities very well respectively. Majority of the samples 98.7% were able to perform outdoor activities very well before surgery but after surgery 89.3% were able to perform outdoor activities very well.

3.Level of Quality of life in psychological wellbeing before and after surgery.

The psychological well being was examined in three aspects in two levels (moderate and good)

1. Positive feeling about self

2. Positive feeling about health and

3. Interest.

Before surgery majority of the samples had good positive feeling about self (98.7%),positive feeling about health (97.3%),and interest (78.7%) .However after the surgery only 89.3% had good positive feeling about self, 66.7% had good positive feeling about health and only 68%had good interest in leisure activities.

4. **Level of Quality of life in social wellbeing before and after surgery.**

The social well being was examined in three aspects in two levels

1 .Interaction with family,

2. Interaction with friends and

3. Spiritual activities.

Before the surgery majority of the samples 94.7% had good interaction with family,84% had good interaction with friends and 94.7% showed good involvement in spiritual activities .After the surgery only 4% had good interaction with family 30.7% had good interaction with friends and only 34.7% had good involvement in spiritual activities.

4.. **Level of Quality of life in overall physical, psychological, social wellbeing and overall quality of life in two levels before and after surgery.**

Majority of the samples (80%) the quality of physical well being was good before and after surgery. Before surgery 100% of the samples had good quality of psychological and social well being. But after surgery only 90% had good psychological well being and only 36% had good social well being.

Before the surgery 98.7% of the samples had overall good quality of life but after the surgery only 89.3% had overall good quality of life.

5. Significant findings

The mean score of personal and household activities before surgery was(17.33 and 10.26) after surgery was (17.29,and 10.25)(t=0.239,0.054) The mean score of outdoor and other activities before surgery was less than (8.9and 10.93) after surgery(8.54 and 12.100(t=3.17,3.87).

The mean score of positive feeling about self and about health was more before surgery(14.7 and 8.6)than after surgery (13.2 and 7.1)(t=7.56,7.97). The mean score of interest before and after surgery (4.7 and 4.6)(t=1.74).

The mean score of interaction with family ,friends and involvement in spiritual activities was more before surgery (5.12,5.25 and 5.45) than after surgery (3.8,3.16 and 4.36) (t=12.61,15.73 and 11.26).

The mean score of overall physical wellbeing before and after surgery was (47.4,48.2).(t=1.28).

The mean score of overall psychological, social wellbeing and overall quality of life was more before surgery (28.1,15.7 and 91.1) than after the surgery (25.1,11.7&84.6).(t=8.01,17.5 &6.76).

There was no association found between demographic variables like age, income, occupation, duration after surgery and physical ,psychological and social well being before the surgery.

There was an association found between occupation and physical well being after surgery. There was no association found between age, income, duration after surgery, monthly income and physical well being after surgery.

CONCLUSION

The study concludes that the quality of life of patients who had undergone coronary artery bypass graft was better before surgery but after surgery the quality of life was better in physical well being whereas psychological and social wellbeing was reduced.

IMPLICATION

The findings of the study revealed that the quality of life of patients who had undergone coronary artery bypass graft was lower than before surgery. The findings of the study has several implications in nursing practice, nursing education, nursing administration and nursing research.

Nursing practice

The findings of the study clearly highlights the problems experienced by the patients after coronary artery bypass graft. Educational programs to be conducted by the nursing personnel to the patients with coronary artery bypass graft and their family members both in the hospital and community areas helps to overcome the psychological stress and social isolation. The nursing care focused specifically towards psychological and social support. The nursing personnel should develop adequate skill to explain the patients how to cope up with psychological and social problems and develop ability to counsel and help the patients to adopt the stressful situations.

Nursing education

In the field of nursing education the nurse educator should provide more opportunity for the students to educate the patients and their family members in the clinical area. The nurse educator should provide inservice education to the cardiology department staff nurses regarding the physical, psychological and social needs for the coronary artery bypass graft patients. Different teaching aids can be utilized as a teaching materials for nurses and other health care provider regarding the performance of physical activites.The nurse educator can prepare a quick reference guide about the importance of physical, psychological and social wellbeing for the coronary artery bypass graft patients to the nurses, patients and family members.

Nursing administration

Nurse administrator should be efficient in organization of training programme regarding psychological and social support after coronary artery bypass graft to the patients and family members. A special nurse health educator can be appointed in cardiology department to provide education to the patients and their family members to overcome the psychological and social problems.

Nursing research

The study provides scope for future researcher utilization of findings and dissemination of knowledge in nursing practice.

Recommendations

1. The study can be done to compare the level of quality of life between the coronary artery bypass graft and angioplasty.
2. This study can be replicated on a large sample for generalization and more significance in results.
3. This study can be done to assess the knowledge and practice of nurses those who are attending patients before and after coronary artery bypass graft.
4. All the cardiology department should have a counseling session for the patients and family members before and after coronary artery bypass graft.
5. Community must come forward to utilize the services of social agencies for counseling.

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APPENDIX - i

LETTER REQUESTING PERMISSION TO CONDUCT THE STUDY

To

The Dean
GKNM Hospital,
Coimbatore.

Sub : Letter requesting permission for conduct the study

Respected Sir/Madam

Ms.S. Swega is a post graduate nursing student of our institution. She has selected the below mentioned topic for her research project to be submitted to Dr. MGR medical University of health science, as a partial fulfillment of M.Sc (N) degree.

"A Study to Assess the Quality of Life of Patients with Coronary Artery Disease Before and After coronary artery bypass graft"

Regarding this project, she is in need of your esteemed help and co-operation as she is interested in conducting a study of her project, in the hospital during the month of July 2009. I request you to kindly permit her to conduct the proposed study and provide her the necessary facilities.

The student will furnish details of her study, if required personally. Please do the needful and oblige.

Thanking you,

Place : Yours faithfully

Date : PRINCIPAL

APPENDIX - ii

PERMISSION LETTER FOR CONTENT VALIDITY

From :

Ms.S.Swega
M.Sc. (N) IInd year
R.V.S. College of Nursing
Sulur, Coimbatore.

To

Through the Principal,

Respected Madam,

Sub : Letter requesting opinion and suggestion of experts for establishing content validity of the tool.

I am a Master of Nursing student of RVS College of Nursing in the specialty of Medical surgical nursing. As per the requirement for partial fulfillment of the Nursing Degree under the Tamilnadu Dr. M.G.R Medical University, I have selected the following topic for dissertation.

A Study to assess the Quality of life patients with coronary artery disease before and after coronary artery bypass graft.

I humbly request you to kindly validate the tool and give our valuable suggestion.

Thanking you

Yours sincerely,

Enclosures:

1. Statement of the problem
2. Objectives of the study
3. Research tool
4. Criteria rating for validation

(Ms.S.Swega)

APPENDIX - iii

CERTIFICATE OF CONTENT VALIDITY

This is to certify that tool developed by **Ms. S.Swega** M.Sc (Nursing) II Year Student, RVS College of Nursing, RVS educational Trust, Sulur, Coimbatore to collect data on the problem.

"A Study to assess the quality of life of patients with coronary artery disease before and after Coronary Artery Bypass Graft in a selected hospital at Coimbatore." is validated by the undersigned and she can proceed with this tool to conduct the main study.

Name & Address:

Signature:

Seal :

Date:

APPENDIX - iv

CRITERIA RATING SCALE FOR VALIDATING THE INTERVIEW SCHEDULE

Kindly go through this tool, please give your views regarding clarity, relevance, adequacy and remarks

ITEMS	CLARITY	RELEVANCE	ADEQUACY	REMARKS
PART I **Demographic profile**				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
PART II Physical well being I Personal activities				
1				
2				
3				
4				
5				
6				
II Household Activities				
1				
2				
3				
4				
5				
6				
7				
8				

III. Out door activities				
1				
2				
3				
IV Other activities				
1				
2				
3				
4				
5				
PART III **Psychological well being**				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
PART IV Social well being				
1				
2				
3				
4				
5				
6				

Suggestions:

Signature:

Name, Designation:

APPENDIX - v

REQUISITION LETTER FOR CO – GUIDE

From :

Ms.S.Swega
M.Sc. (N) IInd year
R.V.S. College of Nursing
Sulur, Coimbatore.

To :

Dr. Sundar Ramanathan MS,Mch (CardioThoracic)
Consultant Cardiothoracic surgeon
GKNM Hospital,
Coimbatore.

Through the Principal,

Respected Sir,

Sub : Request for Co – Guide

I wish to state that I am M.Sc (N) 2nd year student of RVS College of Nursing. I have selected the below mentioned topic for dissertation as a partial fulfillment for the Master of Nursing Degree to the Tamilnadu Dr. MGR medical University.

A Study to assess the Quality of life patients with coronary artery disease before and after Coronary Artery Bypass Graft.

Regarding this I am in need of your valuable help and cooperation by providing services to be a Co-Guide for my study.

I humbly request your highness to consider the same and do the needful.

Thanking you,

Yours sincerely,

(Ms.S.Swega)

APPENDIX - vi

INTERVIEW SCHEDULE

INTRODUCTION

When a person is healthy, he can meet all his needs by himself. But if the person falls sick especially in the case of heart diseases his day to day activities will be affected.

PURPOSE:

The purpose of this interview is to find out from you how much activities you were able to carry out before the surgery and now after the surgery what are all the activities you are able to carry out.

INSTRUCTION

1. Kindly give your response to the questions asked
2. There is no right and wrong answer
3. Your answer will be kept confidential

PART – I

DEMOGRAPHIC DATA

1. Sample number :
2. What is your age?
    a. <40yrs ☐
    b. 40 – 50 years ☐
    c. 51 – 60 years ☐
    d. >60yrs ☐
3. Sex
    a. Male ☐
    b. Female ☐
4. What is your educational status?
    a. No schooling ☐
    b. Primary education ☐
    c. Secondary education ☐
    d. Higher education ☐
5. What is your occupation?
    a. Labour ☐
    b. Office worker ☐
    c. Business ☐
    d. Professionals ☐
    e. Not working ☐

6. How long were you having coronary artery disease before surgery?

   a. < 2 years ☐
   b. 2 – 4 years ☐
   c. 4 – 6 years ☐
   d. Above 6 years ☐

7. Were you on any medication before surgery?

   a. Yes ☐
   b. No ☐

8. Did you take medication regularly?

   a. Regularly ☐
   b. Irregularly ☐

9. When did you have surgery?

   a. 6 months before ☐
   b. 1year before ☐
   c. Above 1 year ☐

10. Are you on medication now?

   a. Yes ☐
   b. No ☐

11. What is your monthly income?

   a. Rs<1000 ☐
   b. Rs. 1000 – 5000 ☐
   c. Rs. 5000 – 10000 ☐
   d. Rs. > 10000 ☐

PART – II

PHYSICAL WELL BEING

Which are the activities were you able to carry out without difficulty and which activity were you able to carry out with some difficulty or great difficulty before and after surgery?

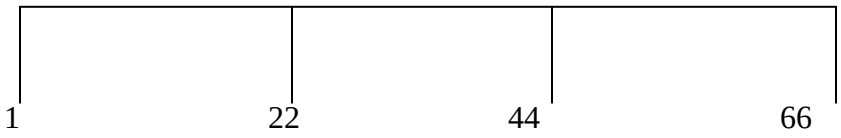
S. No	PHYSICAL ACTIVITIES	Before surgery			After surgery		
		With great difficulty	With some difficulty	No difficulty	With great difficulty	With some difficulty	No difficulty
I	**Personal activities**						
1	Taking bath						
2	Dressing						
3	Combing the hair						
4	Eating						
5	Shaving						
6	Moving in and out of bed or chair						
II	**Household activities**						
1	Cooking						
2	Washing the cloth						
3	Sweeping						
4	Grinding						

5	Ironing						
6	Gardening						
7	Minor repairing work at home						
8	High dusting						
III	**Out door activities**						
1	Going to bank						
2	Family shopping						
3	Going to worshiping place						
IV	**Other activities**						
1	Walking more than a mile						
2	Traveling by bus						
3	Climbing flight of stairs						
4	Running						
5	Lifting objects						

SCORING KEY

With great difficulty	:	1
With some difficulty	:	2
No difficulty	:	3

GRADING KEY



GRADING THE SCORE

Poor	:	1- 22
Moderate	:	23-44
Good	:	45-66

PART – III

PSYCHOLOGICAL WELL BEING

Kindly rate your views with regard to the following questions relating to before and after surgery?

S. No	Items	Before surgery			After surgery		
		Always	Some time	Not at all	Always	Some time	Not at all
1	Did you feel that you were depending on others?						
2	Did you worry about your health?						
3	Did you feel lonely and helpless?						
4	Did you feel nervous and anxious?						
5	Did you feel guilty when you were not able to help others?						
6	Were you confident that you were able to work alone?						
7	Were you interested in Reading newspaper						
8	Were you interested in Watching TV						
9	Did you have lack of sleep due to thinking about your health?						
10	Were you hesitant to take responsibility due to your health?						

SCORING KEY

Always - 1
Sometime - 2
Not at all - 3

GRADING KEY

GRADING THE SCORE

Poor	:	1- 10
Moderate	:	11-20
Good	:	21-30

PART – IV

SOCIAL WELL BEING

Did you involve in the following activities? Kindly rate the activities as you feel.

S. No	SOCIAL ACTIVITIES	Before surgery			After surgery		
		Always	Some time	Not at all	Always	Some time	Not at all
1	Attending family function						
2	Celebrating festival						
3	Talking with the friends						
4	Visiting relatives home						
5	Taking part in group gathering						
6	Participating in spiritual activities						

SCORING KEY

Always – 3
Some time – 2
Not at all – 1

GRADING KEY

GRADING THE SCORE

Poor : 1- 6

Moderate : 7 -12

Good : 13-18

ne®Kf« fhz±

K¬Diu

xUt® eyKl¬ ,U¡F« bghGJ mtUila njitfis mtnu ó®¤½ br-J bfh´th®. Mdh± mt® nehÆdh± gh½¡f¥g£lh± K¡»akhf ,ja nehÆdh± gh½¡f¥g£lh± mtUila m¬whl njitfis ó®¤½ br-tJ fodkh»wJ.

neh¡f« :

,ªj ne®Kf¤½¬ neh¡f«/ mWit ¼»¢ir¡F K¬ c§fsh± v²tsî bra±fis br-a KoªjJ k¦W« mWit ¼»¢ir¡F ¾¬ c§fsh± v¬bd¬d bra±fis br-a Ko»wJ.

F¿¥ò :

1. jaî br-J nf£l Édh¡fS¡F cÇa ÉilaË¡fò«
2. rÇahd k¦W« jtwhd Éil v¬W vJî« ,±iy
3. c§fsJ Éilf´ uf¼akhf it¡f¥gL«.

gF½ I Ra Étu«

1. kh½Ç v© :

2. c§fsJ taJ v¬d>
   a. 40 ta½¦F Ñ³
   b. 40 - 50 taJ
   c. 51 - 60 taJ
   d. 60 ta½¦F nk±

3. ghÈd«
   a. M©
   b. bg©

4. c§fsJ f±É¤jF½ v¬d>
   a. go¡fÉ±iy
   b. Mu«g f±É
   c. nk±Ãiy¡ f±É
   d. ca®f±É

5. c§fsJ ntiy v¬d>
   a. TÈ
   b. mYtyf gÂahs®
   c. Ra bjhÊ±
   d. bjhÊ±
   e. ntiyÆ¬ik

6. mWit ¼»¢ir¡F K¬ c§fS¡F v²tsî fhykhf ,Uja neh- ,UªjJ>
   a. ,u©L tUl« m±yJ ,u©L tUl¤½¦F Fiwthf
   b. ,u©L tUl¤½ÈUªJ eh¬F tUl¤½¦F´
   c. 4-6 tUl¤½¦F´
   d. 6 tUl¤½¦F nk±

7. mWit ¼»¢ir¡F K¬ VnjD« kUªJ vL¤J¡ bfh©O®fsh>
   a. M«
   b. ,±iy

8. mWit ¼»¢ir¡F K¬ bjhl®ªJ vL¤J¡ bfh©O®fsh>

   a. M«
   b. ,±iy

9. v¥bghGJ c§fS¡F mWit ¼»¢ir elªjJ.
   a. 6 khj½¦F K¬
   b. 1 tUl¤½¦F K¬
   c. xU tUl¤½¦F nk±

10. Ú§f´ ,¥bghGJ kUªJ kh¤½iufis vL¤J¡ bfh©L ,U¡»Ö®fsh>
   a. M«
   b. ,±iy

11. c§fsJ khj tUkhd« v²tsî>
   a. ghh- MÆu¤½¦F´
   b. MÆu¤½ÈUªJ I-ahÆu¤½¦F´
   c. IahÆu¤½ÈUªJ g¤jhÆu¤½¦F´
   d. g¤jhÆu¤½¦F nk±

¾Çî II cl±ey«

vªbjªj ntiyfis c§fsh± Äf fodkhfî«/ bfh¨r« fodkhfî« kįW« vËjhfî« mWit ¼»¢ir¡F K¬ò« ¾¬ò« br-a Ko»wJ.

	cl± bra±ghLf´	mWit ¼»¢ir¡F K¬			mWit ¼»¢ir¡F ¾¬		
		Äf fodkhf	bfh¨r« fodkhf	vËjhf	Äf fodkhf	bfh¨r« fodkhf	vËjhf
1.	**Ra br±ghLf´** 1. FË¤j± 2. cil khįWj± 3. jiy ÓÎj± 4. czî c©Šj± 5. rtu« br-j± 6. gL¡ifÆÈUªJ m±yJ ehįfhÈÆÈUªJ vGj±						
2.	**å£L ntiyf´** 1. rika± br-j± 2. JÂ Jit¤j± 3. T£Lj± 4. khî miu¤j± 5. njh£l ntiyf´ 6. ¼¿a gGJ gh®¤j± 7. x£il mo¤j±						
3.	**btË ntiyf´** 1. t§»¡F br±Yj± 2. å£oįfhd bghU£f´ th§f br±Yj± 3. tÊgh£L¤ jy§fS¡F br±Yj±						
4.	**kįw bra±ghLf´** 1. xU ikY¡F nk± el¤j± 2. ngUª½± gaz« br-j± 3. go¡f£LfË± VWj± 4. XLj± 5. fodkhd bghU£fis ö¡Fj±						

¾Çî II kd ey«

Ñ³fhŠ« Édh¡fis¥ g¦¿a c§fsJ fU¤J¡fis mWit ¼»¢irÆ¡F K¬ò« k¦W« ¾¬ò« TWkhW jh³ikíl¬ nf£L¡ bfh´»nw¬

	Étu«	mWit ¼»¢ir¡F K¬			mWit ¼»¢ir¡F ¾¬		
		v¥bghGJ «	v¥nghjht J	,±ynt ,±iy	v¥bghG J«	v¥nghjht J	,±ynt ,±iy
1.	Ú§f´ k¦wt®fis rh®ªJ c´sjhf Ãid¡»Ö®fsh>						
2.	c§f´ cl± ey¤ij g¦¿ Ú§f´ ftiy g£lJ©lh>						
3.	Ú§f´ jÅikahf k¦W« cgnahfÄ±yhk± ,Uªjjhf Ãid¤Ô®fsh>						
4.	c§fS¡F ga« k¦W« ftiy c´sjh>						
5.	k¦wt®fS¡F c§fsh± cjt KoahjbghGJ F¦wkhf Ãid¡»Ö®fsh>						
6.	vªj ntiyí« br-a Koí« v¬W j¬d«¾¡if c´sjh>						
7.	Ú§f´ br-½¤jh´ th¼¥gj¦F ÉU¥g¥gLå®fsh>						
8.	Ú§f´ bjhiy¡fh£¼ gh®¥gj¦F ÉU¥g¥gLå®fsh>						
9.	c§f´ cl±ey¤ij g¦¿ Ãid¥gjh± c§fS¡F ö¡fÄ¬ik tªjJ©lh>						
10.	cl± ey¤½dh± bghW¥òfis V¦f ja§»Ü®fsh>						

¾Çî III r,f ey«

Ú§f´ Ñ³fhŠ« bra±ghLfË± <Lg£lJ©lh> jaîbr-J c§fsJ fU¤J¡fis Twî«.

	r,f bra±ghLf´	mWit ¼»¢ir¡F K¬			mWit ¼»¢ir¡F ¾¬		
		v¥bghGJ «	v¥nghjht J	,±ynt ,±iy	v¥bghG J«	v¥nghjht J	,±ynt ,±iy
1.	FL«g ÉHh¡fS¡F br±Yj±						
2.	ÉHh¡f´ bfh©lhLj±						
3.	e©g®fSl¬ fyªJiuahl±						
4.	cwÉd®f´ å£o¦F br±Yj±						
5.	bghJ¡T£l§fË± g§nf¦w±						
6.	M¬Ûf bra±ghLfË± g§nf¦w±						